

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number  
**WO 2004/023545 A1**

(51) International Patent Classification<sup>7</sup>: **H01L 21/338**

[KR/KR]; Sejong Apt., 104-601, Jeonmin-Dong, Yusong-Gu, 305-728 Daejeon-Shi (KR).

(21) International Application Number:

PCT/KR2002/002497

(74) Agent: SHIN, Young-Moo; Ace Tower 4th Floor, 1-170 Soonhwa-Dong, Chung-Gu, 100-130 Seoul (KR).

(22) International Filing Date:

30 December 2002 (30.12.2002)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10-2002-0054210

9 September 2002 (09.09.2002) KR

(71) Applicant (for all designated States except US): ELEC-TRONICS AND TELECOMMUNICATIONS RE-SEARCH INSTITUTE [KR/KR]; 161 Kajong-Dong, Yusong-Gu, 305-600 Daejeon-Shi (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): CHEONG, Woo-Seok [KR/KR]; Hanbit Apt., 136-305, Eocun-Dong, Yusong-Gu, 305-333 Daejeon-Shi (KR). LEE, Seong-Jae [KR/KR]; Daerim Apt., 106-1106, Sinseong-Dong, Yusong-Gu, 305-720 Daejeon-Shi (KR). CHO, Won-Ju [KR/KR]; Hanbit Apt., 113-401, Boeun-Dong, Yusong-Gu, 305-333 Daejeon-Shi (KR). JANG, Moon-Gyu

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

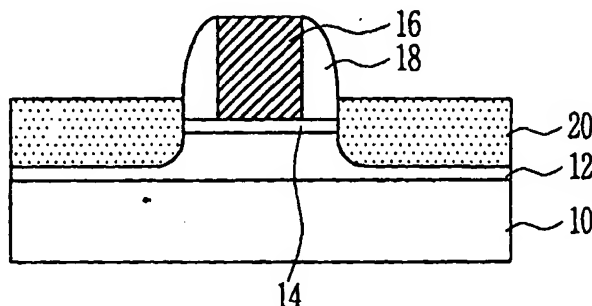
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: APPARATUS FOR MANUFACTURING SEMICONDUCTOR DEVICE AND METHOD FOR MANUFACTURING SEMICONDUCTOR DEVICE BY USING THE SAME



(57) Abstract: In a process for manufacturing a hyperfine semiconductor device, an apparatus for manufacturing a semiconductor device such as a schottky barrier MOSFET and a method for manufacturing the semiconductor device using the same are provided. Two chambers are connected with each other. A cleaning process, a metal layer forming process, and subsequent processes can be performed in situ by using the two chambers, thereby the attachment of the unnecessary impurities and the formation of the oxide can be prevented and the optimization of the process can be accomplished.

WO 2004/023545 A1